

BLUM, I.; CINDEA, V.

Coal desulfuration at low temperatures with a gaseous desulfurizing agent. Note I. Desulfuration of some coals in fixed layers of the Valea Jiului through oxidation. Studii cerc energet 11 no.2:325-343 '61.

1. Membru al Comitetului de redactie "Studii si cercetari de energetica" (for Blum).

BLUM, I.; NISTOR, I.

Production of coke briquette from the nonagglutinant or poorly agglutinant coals through thermochemical treatment. III. Technology. Studii cerc energet 11 no.2:345-354. '61.

1. Membru al Comitetului de redactie "Studii si cercetari de energetica" (for Blum).

BLUM, I.; NISTOR, I.; IONESCU, C.

Coke briquette from the nonagglutinant or low-agglutinant coals, obtained by thermochemical treatment. IV. Mechanical resistance of coke briquettes varying and depending on the type and percentage of the binder. Studii cerc energet 11 no.4:675-686 '61.

1. Membru al Comitetului de redactie, "Studii si cercetari de energetica" (for Blum).

BLUM, I.; NISTOR, I.

Coking process and its relation to the physicochemical structure of the given coal. I. Studii cerc energet 11 no.4:687-699 '61.

1. Membru al Comitetului de redactie, "Studii si cercetari de energetica" (for Blum)

BLUM, I.; BIRCA-GALATEANU, D.; NISTOR, I.; ARCAN, L.

Infrared spectrum of the Valea Jiului bituminous coals.
Rev electrotechn energet B § no.1:103-111 '63.

BLUM, I.; BARCA, Fr.; CERNICA, E.

Study of the briquetting conditions of Rumanian lignites.
Bul Inst Politeh 25 no.4:43-54 J1-Ag '63.

1. Department of Combustibles and Organic Chemical Technology,
Bucharest Polytechnic Institute.

BLUM, I.; BARCA, Fr.

Possibilities of using the bitumen resulting from the distillation of coking and semicoking tars in coal briquetting. Bul Inst Politeh 25 no.5:67-80 S-O '63.

1. Department of Combustibles and Organic Chemical Technology, Bucharest Polytechnic Institute.

BLUM, Jan, mgr.

On approximate calculations. Gosp wodna 22 no.7:330 J1
'62.

BLUM, L; PIATKOWSKI, T.

Specific technological processes of coal in Rumania. p. 275.
(ENERGETICA. Vol 5, No. 6, June 1957, Rumania)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957
Uncl.

BLUM, L; ROZENBERG, M.

Analysis of way of technical utilization of woody brown coal in Rumania. p.279.
(ENERGETICA. Vol. 5, no. 6., June 1957, Rumanis)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957
Uncl.

BLUM, L.; NISTOR, I.; STEFANESCU, F.; TAZLAUANU, V.

Coke briquette from the nonagglutinant or poorly agglutinant coals obtained by thermochemical treatment. VI. Studii cerc energet B 12 no.2:245-253 '62.

1. Membru al Comitetului de redactie, "Studii si cercetari de energetica, Seria B: Termoenergetica si utilizarea energetica a combustibililor" (for Blum).

CA

Blum, L. H.

4

Electrolysis with alternating current. I. A. Atanasiu and Lya A. Blum (Inst. Politech., Bucharest). *Bull. Acad. Sci. Div. Chem. Sci. (B)* 1, 111-40 (1949).—A crit. evaluation is given of the literature on electrolysis with a.c. (I). The depolarizing action of I, weaker as a pulsating d.c. (II), alters the course of reactions at the cathode and anode because of the following: decrease of polarization voltage and overvoltage; increase of anodic activity by decreased passivity; decrease of cathode deposition yield, and change of electrode capacity. The voltage drop upon electrolysis (particularly for II), aside from the economy of elec. energy, permits the isolation of intermediate products in oxidation or reduction reactors. Increase of anodic activity (decrease of passivity), especially for II, is advantageous for the extn. and refining of metals and for the dissolution of alloys, but disadvantageous in oxidation-reduction reactions because of the attack on the anode. In the cathodic deposition, the action of I or II decreases the yield and, in some reactions, results in poorer-quality deposition; to improve the metallic deposition, I of high frequency has been used.

Herman Skolnik

BLUM, L. A.

SCIENCE

Periodicals: REVISTA DE CHIMIE. Vol. 9, no. 9, Sept. 1958

BLUM, L. Influence of ultrasonic waves on electrode processes. p. 546

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

BLUM, L. A.

RUMANIA/Acoustics - Ultrasonics.

J

Abs Jour : Ref Zhur Fizika, No 8, 1959, 18801

Author : Blum, Lya

Inst :

Title : Effect of Ultrasound on the Process of Electrode
Formation

Orig Pub : Ref. chin., 1958, 9, No 10, 546-552

Abstract : No abstract.

Card 1/1

BLUM, M.; JANUSZEWICZ, I.; BRZozowska, M.

Isolating new types of *Leuconostoc*.

p. 304
Vol. 9, no. 7, July 1955
PRZEMYSŁ SPOŻYWCZY
Warszawa

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 2
Feb. 1956

17 L 000 M.
RUMANIA/Human and Animal Physiology - Circulation.

V-4

Abs Jour : Ref Zhur - Biol., No 4, 1958, 18196

Author : C.C. Dimitriu, N. Goldenberg, Ch. Creteanu, M. Baum,
I. Lungu and A. Danaita

Inst : -

Title : The Influence of Factors of the External Environment on
the Mechanism by Which Hypertensive Disease is Produced
(A Study of 6040 Workers in Various Fields.)

Orig Pub : Commun. Acad. RPR, 1957, 7, No 2, 261-265

Abstract : A considerable number of individuals with increased arterial pressure were brought to light during the course of the investigation. In the first stage of hypertensive disease the single and fundamental symptom in many cases is an increase in arterial pressure. Mental work is an etiological factor in hypertensive disease more often than physical work; heavy physical work is more rarely an etiological factor than light physical work.

Card 1/2

GAVRILITA, Lorică; BLUM, Miriam; ONOFREI, T.; APOSTOL, A.

Considerations on the histochemical aspects of hepatic alkaline phosphatases in epidemic hepatitis. Stud. cercet. med. intern. 3 no.3:387-390 '62.

(HEPATITIS, INFECTIOUS chemistry) (PHOSPHATASES chemistry)
(LIVER chemistry)

BLUM, M.

①

GOLDENBERG, N.

RUMANIA

Rumania

MD, Lecturer

Medical Clinic of the "C. I. Parhon" Hospital (Clinica Medicala
a Spitalului "C. I. Parhon"), Iasi

Bucharest, Viata Medicala, No 2, 15 Jan 63, pp 89-100.

"Present Aspects in Nephrology."

Co-author:

BLUM, M., MD, Medical Clinic of the "C. I. Parhon" Hospital, Iasi.

Blum, M.

ROMANIA

COLEA, H., Lecturer; BLUM, M., MD.

Medical Clinic at the "C. I. Parhon" Hospital (Clinica Medicina
a Spitalului "C. I. Parhon"), Iasi - (for all)

Bucharest, Vita Medicala, No 2, 15 Jan 63, pp 89-100.

"Topical aspects in nephrology."

RUMANIA

GOLDENBERG, N., Lecturer; BLUM, M., MD.

Medical Clinic No IV, "C. I. Parhon" Hospital," Iasi
(Clinica a IV-a medicala, Spitalul "C.I. Parhon", Iasi)
- (for all)

Bucharest, Viata Medicala no 2, 15 Jan 63, pp 101-106

"Recent Findings and Aspects in the Therapy of Nephropathies."

GOLDENBERG, N., conf.; BLUM, M, dr.; OSTAP, B., dr.; ABABEI, V., dr.

Gastric and duodenal ulcer: are they 2 different diseases? Med.
intern. 15 no.2:153-162 F '63.

1. Clinica medicala, Spitalul "C.I.Parhon", Iasi (director: conf.
N. Goldenberg). (STOMACH ULCER) (DUODENAL ULCER)

GOLDENBERG, N.; CASETTI, M.; BLUM, M.; DIMITRU, I.; COVIC, Maria;
MARCULESCU, Cristina; ABABEI, Viorica

Ionograms of normal and pathological gastric juice. Stud.
cercet. med. intern. 5 no.5:513-525 '64.

1. Clinica medicala, Spitalul "C.I. Parhon" (for Goldenberg,
Gasetti, Blum, Dimitriu, Covic). 2. Laboratorul de biochimie,
Spitalul "C.I. Parhon" (for Marculescu, Ababei).

ALEXANDRU, M., ing.; ELUM, R.; DICEA, O., geolog; TRIMBITAS, I., ing.

Considerations on the seismic prospecting works in platform
zones. Petrol si gaze 14 no. 6: 273-290 Je '63

KLING, A., ing.; BLUM, R.

Studies on models in seismic prospecting. Petrol si gaze 12 no.6:
241-246 Je '61.

Blum, Richard. Anzahl der Identitäten von Bianchi in
einer V_n . Acad. Roum. Bull. Sect. Sci. 29 331-333
(1946)

It is shown that the number of independent
identities for an n -dimensional Riemann curvature tensor
is $n^2 - 1$ for $n \geq 4$. (Friedrich, Riemann)

Blum, Richard. Ueber die Bedingungsgleichungen einer Riemann'schen Mannigfaltigkeit, die in einer Euklidischen Mannigfaltigkeit eingebettet ist. Roumaine Sci. 47, 144-201 (1946).

The author considers the problem of imbedding a Riemann space V_n in a Euclidean space. His paper is a generalization of the work of G. Vequa [Rend. Cl. Sci. Fis. Mat. Nat. (6) 11, 385-389 (1946)] and especially of that of T. Y. Thomas [Acta Math. 67, 169-211 (1936)]. It is shown that, in general, the Ricci equations are consequences of the Gauss-Codazzi equations. (2) if V_n is of class r and $0 < r \leq n(n-1)/8$, then the Ricci equations are consequences of the Gauss equations. (3) if $n(n-1)/8 < r \leq n(n-1)/2$, then $n^2 - 1 - n$ of the Ricci equations are consequences of the Gauss equations and of the remaining Codazzi equations. Necessary and sufficient conditions that a V_n be of class r are derived, leading to two regular cases and one singular case. For Riemann spaces of class one, the type number τ , defined by T. Y. Thomas in the above reference, is introduced. In addition to Thomas's discussion for $\tau \geq 4$ and $\tau = 3$, further results for the cases $\tau = 3$, $\tau = 2$ are obtained. A. Fialkow (Brooklyn, N. Y.).

Source: Mathematical Reviews

86934

R/007/60/D11/010/001/003
A125/A026

3.9300
9.9865

AUTHORS: Blum, R., Klang, Al., and Sălișteanu, D., Engineers

TITLE: On the Use of the t_{ox} Lines in the Reflected-Wave Method

PERIODICAL: Petrol si Gaze, 1960, Vol. 11, No. 10, pp. 445-448

TEXT: Seismometry is a geophysical method, widely used because of its advantages, but it still has to be improved to meet the requirements of most modern problems. N.N. Puzyriov recommends the use of $\triangle t_0$ lines in the method of reflected waves (Ref. 1). The authors recommend in subject article a variant of this method, in which the variation of the sound reflexion time t_{ox} in function of the distance from the shooting point may be calculated more simply and directly with the aid of the observation time, without the construction of a normal hodograph becoming necessary. The t_{ox} lines have the same properties and advantages as the $\triangle t_0$ lines. In case the medium above the reflecting horizon is characterized by the V_{mt_0} average speed, according to Figure 1 the h_x normal line is expressed by Equation (1). Starting with this equation, the authors deduce the expression for

$$t_{ox} = \frac{t^2 - \frac{x^2}{v^2}}{t_0} \quad (3).$$

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R/007/60/011/010/001/003

A125/A026

On the Use of the t_{ox} Lines in the Reflected-Wave Method

which is adequate for the uphill and downhill cases. According to the theorem of Pythagoras, this formula can be transposed in a graph (Fig. 2), which simplifies the calculation of the t_{ox} times. The t_{ox} line can be obtained also by a graphical construction. Reference is made to this construction. It is recommended, however, to verify the graphical construction of the t_{ox} line by some points calculated by the Equation (3). The coordinates of the intersecting point P of the t_{ox} line with its hodograph can be computed by the Equation (6). The use of the t_{ox} line in the correlation phase allows the determination of the correctness of the correlation along the profile and an analysis of the speed error. If the calculated speed is erroneous, one will obtain not one t_{ox} line common to the two hodographs, but two separate parallel lines (Fig. 4). The relation error of the

$\frac{\Delta V}{V}$

speed can finally be obtained from the Equation (8). The t_{ox} lines can be used for a check of the correctness of the reflection correlation; in case of reciprocal hodographs, the computed t_{ox} line has to coincide with the graphically constructed t_{ox} line; the speed error can be established as described; the influence of the small speed zone has to present itself uniformly on all t_{ox}

Card 2/3

86934

R/007/60/011/010/001/003
A125/A026

On the Use of the t_{ox} Lines in the Reflected-Wave Method

lines of the same device. The construction of the reflecting horizons is simplified by the t_{ox} lines, which also allow the appreciation of the correctness of the approximation of the seismic medium. There are 4 figures and 1 Soviet reference.

SUBMITTED: July 9, 1960

✓

Card 3/3

ALEXANDRU, M., ing.; BLUM, R., ing.; DOICIN, D., ing.

Considerations of the study of the superficial zone in seismometric
prospecting. Petrol si gaze 14 no.1:1-9 Ja '63.

ALEXANDRU, M., ing.; BLUM, R., ing.; DOICIN, D., ing.

Use of nonlongitudinal profiles for continuous correlation in seismic prospecting. Petrol si gaze 14 no.3:113-118 Ja '63.

BLUMS, V. Zh.; DUBINSKIY, M.B., kand. med. nauk

Desmoid tumors of the abdominal wall. Khirurgiia 40 no.12:
118-120 D '64. (MIRA 18:3)

1. Kafedra gospital'noy khirurgii (zav.- prof. A.F. Lepukaln).
Rizhskogo med'tsinskogo instituta na baze 1-y Rizhskoy gorodskoy
klinicheskoy bol'nitsy (glavnyy vrach K.F. Bergman) i patologo-
anatomicheskogo otdeleniya bol'nitsy (zav. V.Zh. Blums).

R/003/62/013/008/001/002
D272/D308

AUTHOR: Atanasiu, I., Blum-Lazăr, L. and Constantinescu, M.

TITLE: The corrosion of iron and its alloys in alkaline oxidizing media. II. Protection by corrosion inhibitors in NaOCl solutions

PERIODICAL: Revista de chimie, v. 13, no. 8, 1962, 452-457

TEXT: A continuation of earlier work concerned with the corrosion of simple - OL 38 and OL 00 - and stainless steels - RA₁, SNT₁, SUM, and SNL₃ - in alkaline NaOCl solutions. Four inorganic (Na₃PO₄, NaOH, Na₂CO₃, and NaClO₃) and six organic inhibitors (sulfonated fatty alcohols, sodium alkyl aryl sulfonate, a mixture of the two, sodium dibutyl naphthalene sulfonate, sodium dodecyl benzene sulfonate, and degraded proteins) were examined, at concentrations of 0.01, 0.1, 0.5, 1, and 1.5% each. The most aggressive medium established in the earlier study was used, i.e. a NaOCl solution with 9.5 g active Cl per liter. The operating conditions were as in the earlier study. The inorganic inhibitors - with the excep-

Card 1/2

The corrosion of iron ...

R/003/62/013/008/001/002
D272/D308

tion of NaOH which changes the pH of the solution - retarded the corrosion process only very slightly. The organic detergents were good inhibitors - especially the sulfonated fatty alcohols, the sodium alkyl sulfonate, and the mixture of the two; the optimal quantity of inhibitor was 1-1.5% and this concentration had no detrimental effect on the solution properties. From the practical viewpoint, steel RA₁ behaved best, and steels OL 38 and OL 00 evidenced a similar resistance to corrosion in the presence of the inhibitors. The corrosion process of followed cathodic control both in the absence or presence of the inhibitor; in the presence of the inhibitor the cathodic polarization decreases, but still remains preponderant. There are 4 figures and 3 tables. ✓

ASSOCIATION: Laboratorul de electrochimie, Institutul politehnic-București (Electrochemical Laboratory, Bucarest Polytechnical Institute)

Card 2/2

BLUMA, L. K.

BLUMA, L. K.: "Experimental investigations of the elastic properties of concrete following repeated freezing." Min Higher Education USSR. Latvian Agricultural Academy. Riga, 1956. (Dissertation for the Degree of Candidate in Technical Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

BLUMBERG, F.M.

EXCERPTA MEDICA Sec.4 Vol.11/4 Med.Microb. etc. April 58

839. LABORATORY DIAGNOSIS OF SCARLET FEVER. II. PRECIPITIN REACTION OF URINE AND THROAT WASHINGS TO CONVALESCENT SCARLET FEVER SERUM AS A METHOD OF EARLY DIAGNOSIS OF SCARLET FEVER (Russian text) - Khaskina - Munder G. N. and Blumberg F. M. - NAUCH. TRUD. MOSK. INST. VAKT. SYVOR. 1956, 6 (151-155)

Sera from convalescent patients (26th to 40th day of illness) were used as antibody for the precipitin reaction. The antigen was determined in throat washings and urine of patients on the 2nd to 8th day of illness and after the 8th day. It was found that the precipitin agent (scarlet fever antigen) appeared in the urine and throat washings during the first few days of illness, reaching maximum concentration on the 4th-5th day; later on it was more frequently found in urine than in throat washings. The urinary precipitin reaction was also positive in diseases other than scarlet fever but not as frequently (in 14% of cases; in scarlet fever in 51.7%). In blurred and mild forms of scarlet fever antigen in the urinary precipitin reaction is found in 50-51% of patients, whilst in moderately severe forms it is found in 60.8% and the reaction is more pronounced in the latter case. Specific precipitin agent was found in the urine and throat washings of patients in whom the diagnosis of scarlet fever had been rejected; it was also detected in 'carriers' of haemolytic streptococci.

(S)

BLUMBERG, J.
~~KROPACEK, J.~~

CZECHOSLOVAKIA

Czechoslovakia

Tuberculosis Section KUNZ (Tuberkulozni oddeleni KUNZ Praha-Veleslavin), Prague-Veleslavin; Director: F. POLANSKY, Doc. Dr.

Prague, Rozhledy v Tuberkulose a v Nemocech Plicnich, No 8, Sep 62, pp 561-569.

"Bronchial Fistula Complicating Pulmonary Resection for Tuberculosis".

Co-authors:

BLUMBERG, J., Tuberculosis Institute (Tuberkulozni lecebna v Jevicku), Jevick; Director: M. DVORAK, MD; FURY, L., Tuberculosis Institute (Tuberkulozni lecebna v Pasece), Paseka; Director: V. RACLAVSKY, Doc. Dr.

(4)

BLUMBERG, J.

KROPACEK, J.

Czechoslovakia

3

Tuberculosis Section KUNZ (Tuberkulozni oddeleni KUNZ Praha-Veleslavin), Prague-Veleslavin; Director: F. POLANSKY, Doc. Dr.

Prague, Rozhledy v Tuberkulose a v Nemocich Plicnich, No 8, Sep 62, pp 561-569.

"Bronchial Fistula Complicating Pulmonary Resection for Tuberculosis".

Co-authors:

BLUMBERG, J., Tuberculosis Institute (Tuberkulozni lecebna v Jevicku), Jevick; Director: M. DVORAK, MD; FURY, L., Tuberculosis Institute (Tuberkulozni lecebna v Pasece), Paseka; Director: V. RACIAVSKY, Doc. Dr.

(4)

BLUMBERG, M. [Blumberga, M.]; BASS-SHADKHAN, Kh.

Influence of certain trace elements on the quantity and quality of zymosan forming in yeast. Report 2: Serological and biological assay of different zymosan samples obtained from yeast enriched with trace elements of copper, cobalt and manganese. Vestis Latv ak no.2:95-98 '62.

1. Institut eksperimental'noy i klinicheskoy meditsiny AN latviyskoy SSR.

*

BLUMBERG, M. Ya.

BLUMBERG, M. Ya. -- "Variations in the Complementary Activity in Connection with the Content of Asorbic Acid and Protein Fractions in the Blood." Acad Sci Latvian SSR, Inst of Microbiology, 1953. In Latvian (Dissertation for the Degree of Candidate of Biological Sciences)

SO: Izvestiya Ak. Nauk Latvyskov SSR, No. 9, Sept., 1955

USSR.

✓ Investigation of the action of the preparation "IN-73" used in experimental tuberculosis: M. Ya. Muraberga, E. M. Plandery, G. P. Abolins, and G. A. Andryashina. *Izvestiya Akad. Nauk Latv. S.S.R., Ser. Biol. Med. Sci.*, 1954, No. 2, 71-81; *Referat. Zhur., Khim.*, 1954, No. 20307. — The prepn. "IN-73" represents a hydrazide of lonicotinic acid with certain admixts.—hydrazides of nicotinic, cinchomeronic, and 2,6-pyridinedicarboxylic acids, resp. E. Wierbicka

SI. 4113-100 (9a)

U S S R .

Utilization of ultrasound in detection of tuberculous mycobacteria in pathologic materials. J. Skärds, M. Blum-berga, and A. Skärds. *Labijsas PSK Rindisya Aka: Vairis* 1958; No. 7 (Whole No. 64), 61-7 (in Russian; Latvian summary, 68).—Ultrasound at 380 kc. and 5 w. per sq. cm. at 38° decreased the viscosity of sputum. It also destroyed the microscopically detectable tuberculous mycobacteria (1) but much slower than the other microorganisms present. Ultrasound irradiation of membrane filters used to conc. I slowed clogging of the filters by as much as 60% but limits were set by slow disintegration of the filters. A. D.

BLUMBERG M. Ya.
BERZIN', V.K.; BLUMBERG, M.Ya.

Method for setting up and evaluating the opsonocytophagic reaction.
Zhur.mikrobiol.epid. i immun. no.1:124-130 Ja '58. (MIRA 11:4)

1. Iz kafedry mikrobiologii Rzhskogo meditsinskogo instituta.
(PHAGOCYTOSIS,
opsonic-phagocytic reaction (Rus)

USSR/Human and Animal Physiology (Normal and Pathological)
Nervous System. Metabolism.

T

Abs Jour : Ref Zhur Biol., No 6, 1959, 27012

Author : Blumberg, M.Ya.

Inst : Institute of Microbiology, Academy of Sciences Latvian
SSR

Title : Change of Asorbic Acid Content in Liquid in the Period
of Treatment in Tuberculous Meningitis.

Orig Pub : Tr. In-ta mikrobiol. AN LatSSR, 1958, vyp. 6, 37-41

Abstract : No abstract.

Card 1/1

BLUMBERG, Ye.A.; VASIL'YEV, V.I.; EMANUEL', N.M.

Effect of hydrocarbon additions on the concentration limits of
flame spreading in gas mixtures containing hydrogen. Izv. AN SSSR.
Otd. khim. nauk no.10:1172-1180 O '57. (MIRA 11:3)

1. Institut khimicheskoy fiziki AN SSSR.
(Combustion) (Hydrocarbons) (Inhibition (Chemistry))

1 3175-65 EWT(m)/EPF(c)/EWP(j) Pz-4/Pr-4 RM

ACCESSION NR: AP4049323

Y/0002/64/000/010/0827/0829

AUTHOR: Blume, H.; Hattwig, M.; Strich, E.-R.; Bisinger, H.J.

TITLE: Ultra purification¹ of gases using new catalysts

SOURCE: Kemija u industriji, no. 10, 1964, 827-829

TOPIC TAGS: gas purification, nickel catalyst, chromium catalyst, alumina catalyst, production, oxygen removal, carbon monoxide removal, carbon dioxide removal

ABSTRACT: The article reports on the progress in gas purification achieved by means of new catalysts at the East German enterprise Leuna Werke "Walter Ulbricht". After a survey of earlier types of catalysts, results are tabulated showing: a. the efficiency of the new $\text{Ni}/\text{Al}_2\text{O}_3$ catalyst in removing oxygen traces (as compared to the older catalyst), and b. the properties of a new Ni/Cr catalyst used for the purification of gases during the synthesis of ammonia. Tests reported included the mechanical properties, efficiency as a function of quantitative composition of the catalyst, efficiency as a function of the gaseous impurity concentration, and efficiency as a function of temperature. Orig. art. has: 1 figure and 5 tables.

Card 1/2

L 31775-65

ACCESSION NR: AP4049323

ASSOCIATION: VEB Leuna-Werke (VEB Leuna works)

SUBMITTED: 00

ENCL: 00

SUB CODE: GC

NO REF SOV: 000

OTHER: 010

Card 2/2

KRAL, V.; BLUMELOVA, J.; SULA, J.

Separation of aromatic hydrocarbons by column chromatography on acetyl cellulose with regard to the detection and determination of 3,4-benzopyrene. Chem listy 58 no.12:1448-1451 D '64.

1. No.2. Institute of Medical Chemistry of the Faculty of General Medicine of Charles University, Prague.

BLUMENAU, I.

Contribution to the solution for our housing construction.
p. 1128. Vol. 9, No. 8, 1954. TEHNIKA. Beograd, Yugoslavia.

SOURCE: East European Accessions List, (EEAL) Library
of Congress, Vol. 5, No. 8, August, 1956.

BLUMENAU, I.

Housing construction; a brief systemization of the problem. p. 24.
(Izgradnja, Vol. 11, No. 1, Jan. 1957, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug 1957. Uncl.

BLUMENAU, I.

Some words on hollow brick, p. 24.

(Isgradaja, Vol. 11, No. 2, Feb. 1957, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions (ERAL) Lo. Vol. 6, No. 8, Aug 1957. Uncl.

BLUMENCRON, W.; MANDL, K.

Experience with intravenous salicyl therapy. Prakt.Arzt 4 no.37:
292-297 15 June 50. (CIML 19:4)

1. Of the Medical Clinic of Graz University.

BLUMENFELD, Gyula, dr.; GONDA, Endre, dr.

Unipolar extremital leads. Magy. belorv. arch. 7 no.5:149-151
Oct. 54.

I. A Budapesti Janos Korhaz (igazgato-foorvos: Bakacs Tibor dr.)

II. Belosztalyanak (foorvos: Fodor Imre dr.) kozlemenye.

(ELECTROCARDIOGRAPHY

leads, unipolar extremital)

BLUMENFELD, Gyula, dr.

Importance of permanent characteristics of increases ST wave.
Orv. hetil. 96 no.13:356-357 37 Mar 55,

I. A Janos korhaz (igazgato: Bakacs Tibor dr.) II. Belesztalyanak
(foorvos: Fodor Imre dr.) kozlemenye.
(ELECTROCARDIOGRAPHY,
ST wave)

BLUMENFELD, GYULA

RADO, Janos, dr.; BLUMENFELD, Gyula, dr.; Barath, Ferencné és dr.
Szirom Istvánné technikai segédletevel.

ACTH therapy in cardiac edema refractory to novurit. II. Role
of tubular factors in hypochloruria and mercury resistance. Orv.
hetil. 98 no.16:408-413 21 Apr 57.

1. A Budapest Fovarosi Tanacs Janos Korhas Rendelointezet
(igazgato: Bakacs, Tibor, dr.) II. ss. Belosztalyanak (foorvos:
Benceath, Aladar, dr.) kozlemenye.

(CONGESTIVE HEART FAILURE, ther.

ACTH in mercury sensitive & resistant cardiac edema, eff.
on mechanism of urinary chloride excretion (Hun))

(ACTH, ther. use

cardiac edema sensitive & resistant to mercury ther.,
eff. on mechanism of urinary chloride excretion (Hun))

(DIURETICS, MERCURIAL, ther. use

cardiac edema, eff. of ACTH in sensitive & resistant
cases & mechanism of urinary chloride excretion (Hun))

RADO, Janos, dr.; BLUMENFELD, Gyula, dr.; HAMMER, Sarolta, dr.

Prednisone therapy of novurite-induced refractory cardiac edem. III. Significance of tubular mechanisms in the reversal of mercurial sensitivity. Magy.belorv.arch. 12 no.6:183-188 D '59.

1. A Janos Korhaz-Rendelointezet (igazgato foorvos: Tako Jozsef dr.) Izotop V. Belosztalyanak (foorvos: Tako Jozsef dr.), II. sz. Belosztalyanak (foorvos: Goth Endre dr.) es Kozponti Laboratoriumanak (foorvos: Hammer Sarolta dr.) kozlemenye.

(PREDNISONE pharmacol)

(HEART FAILURE CONGESTIVE exper)

GOTH, Endre, dr.; BLUMENFELD, Gyula, dr.

Hyperlipemia and diabetoid metabolic disorders. Orv. hetil.
105 no.38:1786-1790 . 20 3'64

I. Budapesti Janos-korhaz, II. Belosztaly (forras: Goth,
Endre, dr.)

~~BLUMENFELD, L. A.~~
~~BLUMENFELD, L. A.~~

"Polar States in Polynucleotides."

report submitted for the Symposium on Quantum Aspects of Polypeptides and Polynucleotides
Palo Alto, Calif, 25-29 Mar 1963.

SHAROYAN, E.G.; TIKHOMIROV, N.N.; BLYUMENFEL'D, L.A.

Nature of paramagnetic centers in magnesium phthalocyanide
molecular crystals. Zhur. strukt. khim. 5 no.5:697-701 S-0 '64
(MIRA 18:1)

1. Institut khimicheskoy fiziki AN SSSR.

BLUMENFELD, M.

Generalized relations of the recurrence method of three unknowns
for the study of elastic systems. Studii cerc mec apl 14 no.3:
715-726 '63.

1. Institutul politehnic, Bucuresti.

BLUMENFELD, M.

BLUMENFELD, M. ; CONSTANTINESCU, A.

Suggestion regarding standardization of test pieces
in assaying fatigue of metals. p.3. Vol. 7, no. 9, Sept. 1955.
STANDARDIZAREA. Bucuresti.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, No. 2, Feb. 1956.

ELUMENFELD, M.

New methods for examination of materials and manufactured items. p. 80.

METALURGIA SI CONSTRUCTIA DE MASINI

Vol. 8, no. 1, Jan. 1956

Rumania

Source: EAST EUROPEAN LISTS Vol. 5, no. 10 Oct. 1956

R/008/63/000/001/002/006
A065/A126

AUTHOR: Blumenfeld, M.

TITLE: Calculation of rotating discs of variable thickness by the recurrence method of the three unknowns

PERIODICAL: Studii și cercetări de mecanică aplicată, no. 1, 1963, 71 - 81

TEXT: For solving the problem of rotating discs of variable thickness, many methods have been worked out which are all based on the division of the discs into rings of constant thickness. This division supplied good results requiring, however, a rather great number of rings, and thus a great number of calculations. The recurrence method described permits a quick solution of the problem by reducing the volume of calculations. The author first establishes the equations of the unitary radial forces σ_r and the unitary circumferential forces σ_t , located at a certain distance r from the rotating axis, the equations of the unitary circumferential forces at the internal and external side of the disc, as well as the relations between the unitary forces in the thickness variation points of the disc, where σ_r and σ_t are the unitary forces at the R_1 radius

Card 1/2

Calculation of rotating discs of...

R/008/63/000/001/002/006
A065/A126

corresponding to the h_i thickness, and σ_i and σ_{t_i} are those corresponding to the h_{i+1} thickness. Considering now a disc of several thicknesses, the disc is divided into several rings of constant thickness. Two neighboring rings, i and $i+1$, are studied in which the unknown unitary radial forces are σ_{i+1} , σ_i and σ_{i-1} . Calculated is then the unitary force σ_{t_i} of the i ring at the R_i external radius as a function of σ_i and σ_{i-1} , and the unitary force σ_{t_i} of the $i+1$ ring at the R_i internal ring as a function of σ_i and σ_{i+1} . Based on the relation between the unitary forces σ_{i+1} and σ_{t_i} , one obtains a recurrence relation between the unitary forces σ_{i+1} , σ_i and σ_{i-1} . The author finally establishes the conditions at the extremities and gives a calculation example. There are 5 figures and 3 tables.

ASSOCIATION: Institutul politehnic (Polytechnical Institute) Bucharest

SUBMITTED: June 25, 1962

Card 2/2

Country	: RUMANIA	H
Category	: Chemical Technology. Chemical Products (Part 4). Dyeing and Chemical Treatment of Textile Mate-	
Abs. Jour.	: Ref Zhur-Khim, 1959, No 7, 25869	rials
Author	: Vinea, E.; Blumenfeld, N.; Pridie, A.; Arvay, E.	
Institut.	: -	
Title	: Finish of Fabrics and Knitted Fabrics Made from 100% Synthetic Polyamide Yarn	
Orig Pub.	: II-a Consf. tehn.-stiint. a ind. usoare. Textile (Bucuresti), ASIT, 1957, 296-301	
Abstract	: For articles made of synthetic polyamide fibers, the following stages are recommended for the processes of finishing: for fabrics - sorting, stabilizing, scouring, bleaching, dyeing; for knitted fabrics - sorting, doubling, scouring, dyeing, stabilizing. Practically, the stabiliza- tion is done before dyeing, in accordance with the possibilities established by the existing equipment and a limited assortment of dyes, co- lor-fast in thermic treatment. For dyeing, dis-	
Card:	1/2	

Country :
Category= :

Abs. Jour. :

Author :
Institut. :
Title :

Orig. Pub. :

Abstract :persed, acid and "ofnaperl" dyes are used.-- G.
Markus

Card: 2/2

H-159

BLUMENFELD, Teodor, ing.

Twelfth World Road Congress, Rome, 1964. Rev transport 12 no.1:
1-6 Ja '65.

BLUMENFELD, TH.

TECHNOLOGY

PERIODICAL: REVISTA TRANSPORTURILOR, Vol. 5, no. 12, Dec. 1958

BLUMENFELD, TH, AND OTHERS. A grandiose plan of building communism. p. 530

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 4
April 1959, Unclass

1. BLUMENFEL'D, YE.
2. USSR (600)
4. Dairy Cattle
7. 6390 kilograms of milk yearly from each cow.
Dost. sel'khoz. no. 1, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

BLUMENSTOCK, JOSEF

SWICZ, Stanislaw; BLUMENSTOCK, Josef; LI-HE-JONG.

An uncommon complication of helminthiasis. Polski tygod.lek. 11
no.5:217-218 30 Jan 56.

1. Z II Kliniki Chirurgicznej A.M. w Hamhynie; kierownik: dr med.
St.Swica; z-ca kierownika: dr med. Li He Jong. Gdansk-Wrszeszcz,
Klinika Chirurgiczna.

(HELMINTH INFECTIONS, compl.
peritonitis, biliary)

(PERITONITIS

biliary, caused by helminth infect.)

BLUMENSTOCK, J.

POLAND/General Problems of Pathology - Tumors.

T-5

Abs Jour : Ref Zhur - Biol., No 1, 1958, 3281

Author : Swica, S., Blumenstock, J., Czechowska, Z., Lihe Jonk

Inst : -

Title : A Giant Adenoma of the Right Lobe of the Liver.

Orig Pub : Polski tygod. lekar., 1957, 12, No 10, 361-364

Abstract : This is a description of a case of a giant adenoma of the right lobe of the liver with concomitant paroxysmal hypertension. Following the removal of the lobe the blood pressure was decreased.

Card 1/1

EXCERPTA MEDICA Sec 17 Vol 5/4 Public Health Apr 59

1147. THE TREATMENT OF C. DIPHTHERIAE CARRIERS UNDER CONDITIONS
OF POLYCLINICS (Russian text) - Blumental K.V., Brainina
R.A., Vinnichuk N.D. and Iskrzhitskaya A.I. - ZH. MIKRO-
BIOL. (Mosk.) 1957, 12 (56-60) Tables 3

A total of 216 diphtheria carriers were under observation with 108 treated with
antibiotics (chlortetracycline combined with ekmolin). Sensitivity of diphtheria
cultures to chlortetracycline ranged from 0.2 to 5.0 U./ml., but after ekmolin
was added, the sensitivity of the bacilli was 2-4 times higher. Chlortetracycline
with ekmolin shortens considerably the duration of the carrier stage.
Anigstein - Galveston, Tex. (L,6,7,17)

NICOLAU, Gh.St.,academician; BLUMENTHAL, M.; FELLNER, M.; PALA, G.;
Ignatescu, M.; DANILA, P.

Preliminary studies of the therapeutic use in dermatology of
drugs affecting the central nervous system. Probl. ter., Bucur.
Vol 1:7-15 1954.

(MAGNESIUM SULFATE, ther. use
skin dis., mechanism of action)
(CENTRAL NERVOUS SYSTEM, eff. of drugs on
magnesium sulfate in ther. of skin dis.)
(SKIN, dis.
ther., magnesium sulfate)

NICOLAU, GH. ST., academician.; TEODORSCU, ST.; BLUMENTAL, M.; MAISLER,
Al.; COMU, A.; MARGH, Al.; VULCAN, F.; FELLNER, M.;
DUMITRESCU, Al.; IVAN, M.

Studies of the role of streptococci in skin pathology. Bul. stiint.,
sect. Med. 7 no. 2: 513-555 Apr-June 55

(SKIN, diseases
streptoc. infect., bacteriol. & ther.)
(STREPTOCOCCAL INFECTIONS
skin, bacteriol. & ther.)
(ANTIBIOTICS, ther. use
streptoc. infect. of skin)

NICOLAU, Gh.St.,academician.; BLUMENTHAL, M.; FELLMER, M.; SAGER, O.

Role of the central nervous system (cortex-sub-cortex complex) and of the connecting peripheral nerve pathways in trophicity of the skin. Bul stiint., sect. med. 7 no.4:1263-1280 Oct-Dec 55.

1. Institutul de terapeutica, Sectia de dermatologi se Colectivul de neurologie al Academiei R.P.R. de la Spitalul clinic de adulti Colentina. Membru Corespondent Al Academiei R.P.R. V. Cirnu, for Sager.

(SKIN, physiology

trophicity, role of CNS & connecting peripheral nerve pathways)

(CENTRAL NERVOUS SYSTEM, physiology

role in trophicity of skin)

(NERVES, PERIPHERAL, physiology

role in trophicity of skin)

BLUMENTHAL, M.

RUMANIA/Pharmacology, Toxicology. Analeptics

U03

Abs Jour : Ref Zhur - Biol., No 4, 1958, No 17564

Author : Blumenthal M., Fellner M., Belush L., Georghiu I.

Inst : Not Given

Title : The Treatment with Sodium Bromide and Caffeine of Some Dermatoses, Accompanied by Itching

Orig Pub : Probl.terap., 1957, 6, 67-76

Abstract : Thirty two patients, afflicted with dermatosis (type of eczema), accompanied by itching, received daily for 2-3 weeks subcutaneously caffeine in 0.02-0.03 g doses. As a result of the treatment there was a decrease in itching in the patients. The treatment had little effect on skin injuries. When 39 patients received only NaBr (1-2 intravenous injections of 10 ml of a 10% solution daily for 2-3 weeks) 50 patients were completely cured, in addition to a decrease in itching. 61 patients obtained the best effect when caffeine and NaBr were administered simultaneously. Only 14 patients were not cured.

Card : 1/1

BLUMENTHAL, M.; FELLNER, M.; ILIESCU, R.; GHEORGHIU, I. in colaborare cu E. Facon
si Ch. Constantinescu

Skin reactivity to certain external stimuli in patients of diseases
of the nervous system (cerebral and medullary levels). Probl. ter.,
Bucur. no.7:29-39 1957.

1. Institutul de terapeutica al Academiei R.P.R., Sectia de dermato-
venerologie, Spitalul Colentina.

(BRAIN, diseases

diag., skin reactivity to acetic acid, formic acid &
morphine)

(SPINAL CORD, diseases

same)

(SKIN

reactivity to acetic acid, formic acid & morphine, in dis.
of brain & spinal cord, diag. & progn. value)

BLUMENTHAL, M.; FELINER, M.; ILIESCU, R.

Comparative reactivity of the skin to various external stimuli in normal subjects and patients of pruriginous diseases. Probl. ter., Bucur. 8:31-36 1957.

(SKIN DISEASES

pruriginous disorders, skin reactivity to application of formic acid & inject. of morphine)

BLUMENTRITT, V., -ins.

Activities of the Czechoslovak Scientific Technological Society
in the Association of Technical Glass Enterprises. Sklar a
keramik 13 no.8:223 Ag '63.

BERCOVICI, S., dr.; ICACHEM, A., dr.; BÄRMER, A., dr.

Esophago-bronchial fistula of broncholithiasis origin. Med.
intern. (Bucur.) 16 no.11:1391-1396 N '54

1. Lucrare efectuata in sectia medicala a Spitalului "Bucur".

PAGAVA, S. T., ARISTOV, N. A., BLUMINA, L. I., ZAKAROVA, N. M. and SEVALKINA, N. A.

"Influence of the Northern Atlantic on the Development of the Synoptical Process." Published by the Hydrometeorology Publishing House, Moscow, 1958.

ELUMKIN, G. V. ; KRITSKIY, YE. L.; LOKONOV, M. F.

NIKOLSKIY, N. K.; ROZHKOV, K. V.

" Some aspects of automation in ore concentration plants. "

paper to be presented at the Sixth International Mineral
Processing Congress, Cannes, France, 26 May - 2 Jun 63

BLUMKIN, G. V. (res sci); KRITSKIY, Ye. L. (res sci); LOKONOV, M. F. (lab hd); NIKOLSKIY, N. K. (res sci); ROZHKOV, K. V. (res sci)

"Some aspects of automation in ore concentration plants."

report submitted for 6th Intl Mineral Processing Cong, Cannes, 26 May-2 Jun 63.

Mekhanobr Inst, Leningrad.

BLUML, Antonin; TACL, Alexandr; RUS, Vratislav

Occurrence of selenium minerals in the southwest section of the
Sedlcany-Krasna Hora metamorphosed island. Cas min geol 9 no. 1:
73 '64.

1. Rudne doly, n.p., Pribram (for Bluml and TACL). 2. Geologicky
pruzkum, n.p., Pribram (for Rus).

CZECHOSLOVAKIA

BLUML, A; TACL, A; RUS, V.

1.Ore Minings (Rudne doly), Pribram (for Bluml and Tacl); 2.
Geological Institute (Geologicky pruzkum), Pribram (for Rus)

Prague, Casopis pro mineralogii a geologii, No 1, 1964, p/ 73.

"The Occurrence of Selenium Minerals in the Southwestern Part of
the Sedlcany-Krasna Hora Metamorphic 'Island'."

CZECHOSLOVAKIA

BLUML, A; TACL, A; NOVAK, F.

1. Geochemical Laboratory RD (Geochemicka laborator RD), Pribram (for Bluml and Tacl); 2. Institute of Raw Materials (Ustav nerostnych surovin), Kutna Hora (for Novak).

Prague, Casopis pro mineralogii a geologii, No 1, 1965, pp 23-26

"The Occurrence of Cassiterite in the Shevchin Artery of the Brezohorsky Mining Region."

B/ume 09, U.

5000 *[initials]*

CZECH

771 251

4071. On the structure in depth of the image of the photographic objective. V. BUDÁKOVÁ, J. HADJIC, A. R. KULČEK and K. ŠTĚPÁNEK. Czech. J. Phys. 1976, 21, 95-100 (1976) 17 figs.

Diffraction patterns along and perpendicular to the optical axis are shown for the image of a point produced by an ideal lens. Contrast and resolving power decrease on moving along the axis away from the primary diffraction max. The case of an anastigmat ($f = 7.5$ cm) is considered for illustration of the effect of spherical aberration. The distribution of light along the axis now becomes unsymmetrical, and varies with the lens aperture. Graphs are given of the resolving power in μ v. distance along the axis, for apertures of $f/1.8$, 2.0 , 2.5 and 2.8 . In this series two nearly equal max. of resolution separated by 0.1 mm gradually merge into one wider region as the lens aperture decreases. Microscopic measurements of the spacings of 20 max. and min. were made with results agreeing with calculation. Photographs of images at successive max. and min. up to the fifth max. are reproduced.

S. T. HENDERSON

was *[initials]* *K*

BLUMOVA, V.

"Resolving Power of the System 'Objective Lense - Emulsion.'" (In French). By
V. Blumova and J. Hrdlicka.

SO: CZECHOSLOVAK JOURNAL OF PHYSICS, Vol. 4, No. 1, Feb., 1954.

BLUMOVA, V.; HRDLICKA, J.

Blumova, V.; Hrdlicka, J. Influence of spherical aberration of the objective on the structure and the limit of the resolution. p.27.

Vol. 65, no. 9, 1955 ROZPRÁVY. RADA MATEMATICKO-PŘÍRODOVĚDECKÁ
Praha, Czechoslovakia

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 2
February, 1956

6
-21
Influence of subsequent exposure to infrared radiation on
the resolving power of a light-sensitive emulsion. ~~23~~ *Photo*
Blumová and Josef Hájíček (Czech Acad. Sci., Prague).
Czechoslov. Phys. 6, 329-31 (1958) in German. *Sci. et
Ind. Phys.* 28, 111-12 (1957).—Resolving power tests were
made on "Dia-C" lantern-slide plates. After the test expo-
sure, but before development, samples were given a uniform
infrared exposure. The infrared exposure increased the
max. resolving power. The value of the test exposure
which gave the max. resolving power also was increased by

the infrared exposure. The magnitude of these changes in-
creased with increasing amt. of infrared exposure.

J. H. Altman

*7/11
MTT*

BLUMOVA, V.

531 717

NOTE ON THE ACCURACY OF MEASUREMENT OF
RADIUS OF CURVATURE OF PROOF GLASSES WITH A RING
SPHEROMETER. V. Blumova and J. H. Glick.
Optik, Vol. 13, No. 3, 1968 (1968) in German.

Previous papers, e.g. Jensen (Abstr. 1565, 1945), have discussed the best approximation to the ring radius to be used in calculation of results of spherometer measurements. An experimental method is described and this is shown to give most accurate results. The mean square value is used to obtain the best approximation to the radius of the proof glass. R. W. F.

BLUMOVA VERA

CZECHOSLOVAKIA/Optics - Optical Technology

K-4

Abs Jour : Ref Zhur - Fizika, No 3, 1958, No 6875

Author : Blumova Vera, Hrdlicka Josef

Inst : Not Given

Title : Critical Relative Aperture of a Photographic Objective
Having Spherical Aberration

Orig Pub : Ceskosl. casop. fys., 1957, 7, No 1, 87-89

Abstract : See Referat Zhur Fizika, 1957, No 12, 31376

Card : 1/1

BLUMOVA, V.

CZECHOSLOVAKIA/Optics - Optical Technology

K-4

Abs Jour : Ref Zhur - Fizika, No 10, 1958, No 23818

Author : ~~Blumova V.~~

Inst : Laboratory for Optics, Czechoslovak Academy of Sciences,
Prague, Czechoslovakia

Title : Determination of Small Wave Aberrations of Lenses with the
Aid of the Twyman Interferometer.

Orig Pub : Jomna mech. a opt., 1958, 3, No 1, 24-26

Abstract : Description of a procedure for measuring the wave aberrations
in that case, when the number of interfering fringes in the
field of view of very small. By rotating a plain mirror one
obtains the desirable increase in the number of fringes,
whose curvature makes it possible to determine the aberrations.

Card : 1/1

AUTHOR: Blumová, Věra

CZ/37-58-5-5/19

TITLE: The Dependence of the Resolving Power of the System
"Lens - Photographic Emulsion" on the Relative Aperture
of the Lens (Závislost rozlišovací schopnosti soustavy
"objektiv - fotografická emulze" na relativním otvoru
objektivu)

PERIODICAL: Československý Časopis pro Fysiku, 1958, Nr 5,
pp 545-553 (Czech)

ABSTRACT: In spite of the many old and recent papers published on
this subject, several of which are listed in the present
paper, the author considers the problem not entirely
solved. The test used for measuring the resolving power
in this work was a line-test. In Fig.1 the contrast
 $k = (E_1 - E_2) / E_1$ of the image of a periodic line pattern, as
imaged by an ideal lens, is plotted against $4\lambda c S / \pi$.
 E_1 is the brightness of the image at the centre of a
bright line and E_2 the brightness at the centre of a dark
line, S is the number of lines per mm in the image of the
test chart, c is the stop-number of the lens and λ the
wavelength of the light used. The plot in Fig.1 is taken
Card 1/5 from Ref.12, which is based on Ref.13. The contrast of

CZ/37-58-5-5/19

The Dependence of the Resolving Power of the System "Lens - Photographic Emulsion" on the Relative Aperture of the Lens

the image of a line-test, as imaged by an ideal lens, reaches zero if $S=1/\lambda c$. Also in Fig.1 is plotted a "curve of minimum contrast" of a photographic emulsion; this is the minimum contrast needed to resolve the individual lines of the test imaged on the emulsion. The intersection of the two curves is the limit of resolution of the system "lens - emulsion". The author and J. Hrdlicka have in previous work (Ref 14) studied the relation between the resolving power of an emulsion and the contrast of a test. On the assumption that lines in the image can be resolved if the contrast is greater than k_{lim} and k_{lim} is small, an approximate relation:

$$S_e = S_{el} \sqrt{\frac{k}{2-k}} \quad (3)$$

for the resolving power of the emulsion was obtained.

S_{el} is the maximum resolution of the emulsion for $k=1$

and is a characteristic constant of the emulsion. Eq.(3)

Card 2/5 was found in better agreement with experiment than

CZ/37-58-5-5/19

The Dependence of the Resolving Power of the System "Lens - Photographic Emulsion" on the Relative Aperture of the Lens

previously used linear equations. Fig.2 shows the dependence of the resolving power of the system "emulsion-ideal lens" as a function of the relative aperture of the lens. The figure shows that the resolving power of this system only increases with increasing relative aperture up to a limit. Similar measurements have been reported by Marquet (Ref 6). On the other hand, other published work (Ref 9) shows that more refined measurements are needed. The deviations from physically ideal behaviour of a lens influence the resolving power. Five different lenses were interferometrically tested, using the diffraction theory of aberrations. The lenses were tested by a method previously described by the author (Ref 20). The aberrations were expressed in wavelengths (the test-light was $\lambda = 539.1 \text{ m}\mu$) and were measured in the plane in which, at full aperture, the deviation of the spherical wavefront from a sphere was a minimum. The aberrations amounted to almost one wavelength for lens No.1 and to 0.1 wavelengths for the best lens

Card 3/5 tested (No.5). The resolving power of the system "lens -

CZ/37-58-5-5/19

The Dependence of the Resolving Power of the System "Lens -
Photographic Emulsion" on the Relative Aperture of the Lens

emulsion" was measured by a star-test for each of the five lenses with two different emulsions: "Agfa Autolith" and "Foma Super Panchro". The results are shown in Figs. 6 and 7. For small apertures, the resolving powers followed the theoretical curves. From a certain relative aperture, the resolving powers of these systems deviated from the "ideal lens-emulsion" systems. A not very pronounced optimum relative aperture was found, which incidentally is smaller than that at which the aberration of the lens decreased below $\lambda/4$ (see Table 1). This value was previously thought to be small enough to be negligible. As a criterion for the quality of the image, the author used the Strehl definition (Refs 21,22). From this condition "quality numbers" (A) for the lenses were derived by an equation given in this paper, for each relative aperture. These "quality numbers" are plotted in Figs. 8 and 9 as functions of the position of the image-plane. It was found more convenient, however, to use A/c as a measure of the quality of the lenses (Refs 23, 2). Figs. 11 and 12

Card 4/5

CZ/37-58-5-5/19

The Dependence of the Resolving Power of the System "Lens -
Photographic Emulsion" on the Relative Aperture of the Lens

show the plots of resolving power of the systems "lens -
emulsion" as well as the plots of the quality of the
image for the same lenses. The relative aperture at
which the resolving power is maximum, coincides with
that at which the quality of the image (A) is beginning
to deviate from that of an ideal lens with the same
relative aperture.

There are 13 figures, 1 table and 23 references, 9 of
which are Czech, 2 Soviet, 9 English, 2 German, 1 Polish.

ASSOCIATION: Laboratoř optiky ČSAV, Praha (Optical Laboratory,
Czechoslovak Ac.Sc., Prague)

SUBMITTED: March 6, 1958

Card 5/5

BLUMOVA, V.

SCIENCE

Periodicals: CESKOSLOVENSKY CASOPIS PRO FYSIKU Vol. 8, no. 4, 1958

BLUMOVA, V. Dependence of the differentiation ability of the lens-photographic emulsion system on the relative lens aperture. p. 545.

Monthly List of East European Accession (EEAI) LC, Vol. 8, No. 5,
May 1959, Unclass.

K

BLUMOVA, V.

CZECHOSLOVAKIA/Optics - Optical Technology.

Abs Jour

: Ref Zhur Fizika, No 1, 1960, 1980

Author

: Blumova, Vera

Inst

: Czechoslovak Academy of Sciences, Prague, Czechoslovakia

Title

: Dependence of the Resolving Power of a "Lens ... Photoemulsion" System on the Relative Aperture of the Objective

Orig Pub

: Chekhosl. fiz. zh., 1958, 8, No 6, 705-715

Abstract

: The author has calculated the theoretical curves for the dependence of the resolving power S of an aberration-free objective on the relative aperture $1/c$ under the assumption that S of the photoemulsion depends on the contrast k of the test object in accordance with $S = S_1 \sqrt{k/2 - k}$ ($S = S_1$ at $k = 1$). The

Card

Card 1/3

... at two ... point, ... on-free ob-